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An Evaluation of the Service Time Threshold Pilot Program in the Houston Police Department

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ABSTRACT

The advent of community and problem-oriented policing inevitably entailed the expansion of the police mandate to include a broad range of concerns. In order for officers to be able to interact with the community to address the problems of crime and disorder calls for service must be managed efficiently. Police departments are also under pressure to maintain or improve their quality of service, reduce response time to urgent calls, and develop new strategies to solve these problems of crime and disorder; yet not hire more officers to handle increasing workloads. The Houston Police Department designed the "Service Time Threshold" (STT) Pilot Program to reduce the amount of time that a patrol unit takes to process a call for service, namely the time from arrival to actually clearing the call, or officer service time (OST). Reducing the amount of time spent out of service handling the call increases unit availability to handle other pending calls for service or complete directed patrol tasks.

In order to examine the SIT Pilot Program data was collected on officer service times, queue delays, and the number of calls exceeding the STT. Surveys were also administered to the officers and sergeants involved in the pilot program to provide feedback concerning the perceived quality of service and effectiveness of the program.

It was concluded that officer service time was reduced due to the use of STT. However, it could not be determined that unit availability actually increased. Furthermore, the officers and sergeants negative perception of the program has implications for the need for changes in the administration of the program.

TABLE OF CONTENTS

Introduction

The advent of community and problem-oriented policing inevitably entailed the expansion of the police mandate to include a broad range of concerns. In order for officers to have sufficient time to interact and work with community members to solve problems of crime and disorder it is essential that service calls be managed efficiently (Bureau of Justice Assistance, 1994). Police departments are also under pressure to maintain or improve their quality of service, reduce response time to urgent calls, and develop new strategies to solve these problems of crime and disorder; yet not hire more officers to handle increasing workloads. To illustrate this, one of the values in the Houston Police Department's *Plan of Action* is the management of resources as effectively and efficiently as possible.

The development of differential police response strategies (ie., call diversion) and call prioritization and queuing procedures has been found to be critical in managing incoming calls for service, and thus, the patrol officers' time (Sparrow, Moore, and Kennedy, 1990). The Houston Police Department (HPD) has developed and implemented a differential response system to respond to the different calls for service, since response to citizens' calls for service is a high priority in Houston. The overall objective of HPD in its implementation of differential response strategies was to increase the efficiency of the management of calls for service and maintain or improve citizen satisfaction. The Computer-Aided-Dispatch System (CAD) in Houston assists in handling police response to service requests through call classification, prioritization, queuing, and diverting of calls. Houston's differential response strategies hinge on the queuing (stacking/delayed mobile response) of calls for service and the diverting of calls to the Teleserve Unit (telephone unit for taking reports over the telephone). However, not

withstanding the development of the differential response strategies, HPD continues to strive to improve its quality of service and efficient and effective management of resources.

With the knowledge that the efficient and effective management of resources is one of the values in HPD's *Plan of Action,* a pilot program was designed to address the problems of resource allocation and time management, notably manpower and unit availability. The "Service Time Threshold" (STT) Pilot Program is designed to reduce the amount of time that a patrol unit takes to process a call for service, namely the time from arrival to actually clearing the call, or officer service time (OST). Reducing the amount of time spent out of service handling the call increases unit availability to handle other pending calls for service or complete directed patrol tasks.

The pilot program will be conducted at two of the twelve patrol stations, Northeast Division and Central Division. Field (first-line) supervisors (sergeants) at the two stations will positively engage in the daily field activities of patrol units by monitoring units out on calls and "checking by" with those units that have exceeded the STT and caused an alarm to be activated in the CAD system.

A committee averaged CAD service (arrive to clear time) data for the most common call codes for a six-month period and established STT times for fourteen call codes. The threshold was set beyond the average time for each disposition, allowing officers sufficient time to clear the call, which would prevent the alarm from occurring. The appropriate alarm times were set in the CAD system for the fourteen specific call codes. Any unit exceeding the SIT "flashes" on the CAD monitor screen in order to facilitate immediate detection. A field sergeant immediately meets with the unit and determines the reason the STT has been exceeded. The calls exceeding the STT are documented on a Supervisor's Log.

The pilot program will last for 120 days, starting January 7, 2002. Feedback in the form of a survey will be obtained from both supervisors and officers at the midpoint and endpoint of the pilot program. There will be two sets of CAD data for the call codes. The first data set is represented by the calls identified as SIT eligible. The second data set consists of all other calls (non-STT). The average OST for the same time frame in the year preceding the pilot program will be compared with the average OST during the pilot program for both SIT and non-SIT calls. CAD data in the form of queue time delays will be examined for the same time frame in the year preceding the pilot program and compared to the queue time delays .during the pilot program. This comparison will address the availability of officers in reflection of how long calls are held before being dispatched. The percentage of calls exceeding the SIT will be calculated weekly during the pilot program. The surveys completed by the field supervisors and officers will be evaluated to provide feedback concerning the perceived quality of the service and the effectiveness of the program.

It is hypothesized that the OST time averages will be impacted during the pilot program and decrease. It is also hypothesized that queue delay times will decrease due to more units being available and calls not having to be held till a unit becomes available. It is further hypothesized that the percentage of calls exceeding the STT will decrease from the beginning to the end of the program.

The pilot program may have unintended consequences and implications. Officer morale may be affected due to the increased intensity of scrutiny being provided by the field supervisors (sergeants). One of the characteristics of community and/or problem-oriented policing is discretion being pushed down to the lowest level. The increased scrutiny removes some discretion from the officers and pushes it up to the next higher level. Supervisory morale may

also be affected due to the workload possibly increasing. The citizens are not being surveyed, but public perception of officers being rushed to complete the calls for service is a possibility.

This study has relevance to the law enforcement field because previous studies have focused on differential response and response time, not service time, in management of calls for service. Management of OST may be another tool to add to a police department's repertoire to assist in resource allocation and time management.

Review of Literature

As governments search for ways of containing expenditure and obtaining better 'value for money,' police organizations, like most other publicly funded bodies, are under growing pressure to do more with less (Ffrench and Budz, 1997). Thus, police department budgets are coming under increasingly closer scrutiny by the city government and the public. The salaries of classified police officers make up the largest percentage of a police budget, and the return on that investment is largely dependent on the use these officers make of their time (Goldstein, 1990). City government officials are becoming increasingly reluctant to increase police budgets without greater assurance that their investment will have an impact on the problems that the police are expected to handle. The growing cost of police services and the financial plight of most city governments are making city government officials increasingly hesitant to appropriate still more money for police service. Some are even being forced to weigh the impact of cuts on the nature of the service delivered to the public and make some very difficult choices (Goldstein, 1979).

Studies have looked at such things as the relationships among calls for service, idle time, and officer staffing. Larson and Odoni (1981) clarified the relationship with a spatially distributed queuing model. Essentially, a queue is a waiting line. A queuing model, according to Larson and Odoni, has three components: (1) customer demand (calls for service in a police

agency), (2) number of servers (field officers who respond to calls for service), and (3) queue discipline (rules by which customers are selected for service). Queuing models derive formulas about waiting time and length of queues. System performance is assessed in terms of speed of service. Response time (length of time patrol officer takes to respond to the call for service from when it was received), waiting time (on the part of the citizen who requested police service), and idle time (time officers are not responding to calls for service) are each affected by three variables: (a) the number of calls for service, (b) the average number of officers available to respond to calls, and (c) the service time (on scene time - from arrival to clearance). The provision of service requires a trade-off among these variables. To reduce waiting time and response time, the number of available officers must be increased. Adding additional officers, however, also creates more idle time for all officers. If there are too many officers, the idle time will be excessive. To an efficiency-minded administrator, it is desirable to minimize idle time as much as possible. The optimal solution is to have enough officers available for the waiting time , to be tolerable without having excess idle time (which can increase the cost of providing the service) or, if idle time is excessive, then how to use it productively. (Kessler, 1993)

Differential police response strategies are designed to maintain an optimum balance between too much and too little police resource allocation in responding to requests for police service (Worden and Mastrofski, 1998). To accomplish this, a differentiation is systematically made among requests for service, and who responds is varied, in what form, and with what rapidity, in accordance with a priority system established by department policy. In addition to the immediate dispatch of a patrol officer, differential police response strategies include alternatives that either delay the dispatch of an officer (including a scheduled response), or altogether relieve the police department of sending a patrol officer. The "delay" options hinge

upon a call classification and priority system, whereby the delay can range from several minutes to several hours. The filtering of non-urgent calls for police service increases organizational efficiency (Dallas Police Department, 1972). The "relief' alternatives include dispatching civilian responders instead of sworn, taking reports by telephone, having citizens mail in reports or come to the station to complete them, routing requests directly to specialist police units, referring requests to non-police service sources, and declining to provide services altogether (Worden and Mastrofski, 1998).

Studies done in the 1980s further provided credence to the implementation of intake and call screening procedures, the development of priority response codes, and the establishment of alternative response mechanisms allowing some types of calls to be diverted away from the response of a field unit (Farmer, Sumrall, and Roberts, 1981; and McEwen, Connors, and Cohen, 1986). There were no studies discovered that evaluated officer service time (OST) and its importance in police resource allocation in responding to requests for police service.

At the opposite end of the spectrum from the numbers crunching aspect of resource allocation and police officers is the issue of officer effectiveness and satisfaction. Community based policing has several considerations in this regard. The implementation of community policing brings anticipation of changes in police officer effectiveness, primarily through the mechanism of problem solving. In addition, police officer performance, job satisfaction, and job attachment are anticipated to increase, and police officer role definitions are expected to broaden through involvement in community policing initiatives. Such outcomes presume greater task identity (and consensus) among officers, greater officer autonomy in decision making, job enrichment and job enlargement, increased feedback to officers regarding their community and problem-focused activities, and increases in the depth and range of skills officers are trained for

and employ as part of their community policing methodology (Greene, 1998). According to Peak and Glensor (1999), in most community policing projects it is implied, if not made explicit, that officers are to have much greater freedom and to exercise independence.

The introduction of problem oriented policing encompasses a broader role for the street officer. The officer is given much more discretion and decision-making ability and is trusted with a much broader array of responsibilities. Problem oriented policing values "thinking" officers, urging that they take the initiative in trying to deal more effectively with problems in the areas they serve (peak and Glensor, 1999).

Even though there is talk of work motivation and officers in the community policing and problem oriented policing literature, there is very little research directly related to work motivation and the police. What research there is has to do with police opinions and attitudes. Cordner (1978) reviewed several articles on the relationship between attitudes, motivation, and behavior. In a 1971 survey of601 police officers, the fourth most serious problem cited was the "degree to which (command officers are) willing to consult with subordinates before new policies are put into effect." This reflects a higher order need of police officers to participate in decisions that affect them. A survey conducted in 1974 produced similar findings. Police agency employees and experts on policing agreed that younger officers expect organizational changes and participation in decision making, and police administrators ignore educated officers. These findings again reflect higher order needs for participation, responsibility, and recognition. When a 1975 survey had all the members of a police agency choose between organizational characteristics (reflecting exploitative authoritative, benevolent authoritative, consultative, and participative group management systems), all chose those characteristics reflecting consultative management. Widely delegated decision making, shared responsibility, and cooperative

teamwork are among the elements of this management system. In other words, this management system, which was preferred by all ranks, was designed to provide higher order need satisfaction. Cordner concluded that, in assuming an adequate work context base, police managers interested in work motivation improvement should seek to expand their employees' opportunities to satisfy higher level needs through their jobs. Enriching the job in terms of responsibility, growth, recognition and achievement, and providing opportunities for participation in organizational decision making seem to be the most satisfying.

A study by Brewer, Wilson, and Beck (1994) examined Komaki's operant model of supervision in an organizational setting characterized by a formal chain of command. Their findings were consistent with Komaki' s (1986) operant conceptualization of how supervisors motivate their subordinates. They found that, compared with supervisors in other settings, police sergeants spent less time providing antecedents (i.e. instructions, rules, goals) and consequences (i.e. feedback), and more time monitoring subordinates' performance. Furthermore, sergeants of higher performing teams spent more time monitoring performance and providing neutral performance consequences. In contrast with earlier findings, monitoring via work sampling was not related to subordinate performance. However, it was determined that performance was related to the time supervisors spent soliciting self-reports from subordinates and those solitary activities which provided more opportunities for monitoring subordinates' performance.

Methodology

The purpose of this study is to examine the "Service Time Threshold" (STT) Pilot Program conducted in the Houston Police Department. The STT Pilot Program is designed to reduce the amount of time that a patrol unit takes to process a call for service, namely the time from arrival to actually clearing the call, or officer service time (OST). Reducing the amount of

time spent out of service handling a call increases unit availability to handle other pending calls for service or complete directed patrol tasks. Specifically, it is hypothesized that the OST time averages will be impacted during the pilot program and decrease. It is also hypothesized that queue delay times will decrease due to more units being available and calls not having to be held till a unit becomes available. It is further hypothesized that the percentage of calls exceeding the STT will decrease from the beginning to the end of the program.

A departmental committee averaged Computer-Aided-Dispatch (CAD) service time (arrive to clear time) data for the most common call codes for a six-month period and established STT times (See Table I). The threshold was set beyond the average time for each disposition, allowing officers sufficient time to clear the call, which would prevent the alarm from occurring.

Table I

Service Time Thresholds

Call Code	Description	STT (minutes)
300C/R/B	Silent 9-1-1 (coin phone/residence/business)	13
322L	Local burglar alarm	60
420V	Burglary of motor vehicle/delayed Burglary of	60
420R	residence/delayed	60
420B	Burglary of business/delayed	10
690P/N	On-view patrol/narcotics investigation Hold-	20
1310	up/panic alarm	10
2140	Assault/injury-just occurred	60
2410	Major accident/non-fatal	90
3030	Family disturbance/no injuries	45
3040	Non family disturbance/no injuries	30
3060	Loud noise/disorderly conduct	10
3500	Auto theft/dispatch required	60
4440	Minor accident	60

The appropriate alarm times were set in the CAD system for the specific call codes in Table I. Any unit that exceeds the SIT "flashes" on the CAD monitor screen in order to facilitate

immediate detection. A field (first-line) supervisor (sergeant) immediately meets with the unit and determines the reason the SIT has been exceeded.

The pilot program will be conducted at two of the twelve patrol stations, Northeast Division and Central Division. Northeast Division is made up of three patrol districts -7,8, and 9. Central Division has two patrol districts - 1, 2. The pilot program will last for 120 days, starting January 7, 2002, and ending May 7, 2002. Field (first-line)' supervisors (sergeants) at the two stations will positively engage in the daily field activities of patrol units by monitoring units out on calls and "checking by" with those units that have exceeded the SIT and caused an alarm to be activated in the CAD system. The alarm will be activated in the CAD system for the designated call codes that exceed the SIT, thereby causing the unit number to "flash" on the screen. A classified officer assigned to work the patrol station, a Police Service Officer (non sworn employee), Injured on Duty status officer, or station sergeant will monitor the station CAD terminal and report to the station sergeant any unit that exceeds the SIT for a call. The station sergeant will advise a field sergeant, who will respond to the officer's location and determine the reason for the SIT to be exceeded. The calls exceeding the STT are documented on a "supervisor's daily service time threshold log."

The limitations and ability of the CAD system to retrieve data restrict the analysis that will be conducted. Two statistics will be reviewed: (1) OST - time on the scene, and (2) queue delay - how long a call held in the queue till it was dispatched. There will be two sets of CAD data for the call types. The first data set is represented by the calls identified as STT eligible. The second data set consists of all other calls (non-STT). The statistics for OST for both sets of call codes will be reviewed individually by district (Central- 1,2 and Northeast -7,8,9) and month and compared for a two-year period (01,02) for both SIT and non-STT calls. The

statistics for "all call types" for each district and "all call types Citywide" will be used as a control. CAD data in the form of queue delays will be reviewed individually by district and priority for a two-year period (01, 02). This comparison of queue delays will address the availability of officers in reflection of how long calls are held before being dispatched. And lastly, the percentage of calls exceeding the STT will be calculated weekly during the pilot program.

Quantitative and qualitative feedback in the form of a survey will be obtained from officers and supervisors at both sites at the mid-point and end-point of the pilot program. The surveys completed by the field supervisors and officers will be evaluated to provide feedback concerning the perceived quality of service and effectiveness of the program.

Findings

The central purpose of this work is to examine the "Service Time Threshold" (STT) Pilot Program that was conducted in the Houston Police Department. The SIT Pilot Program is designed to reduce the amount of time that a patrol unit takes to process a call for service, namely the time from arrival to actually clearing the call, or officer service time (OST).

The statistics for OST are reviewed individually by district (Central- 1,2 and Northeast -7,8,9) and month and compared for a two-year period (01,02) for SIT call types, non-SIT call types, "all call types" for that district, and "all call types - Citywide." "All call types" for that district and "all call types - Citywide" are used as a control. Table II shows the variance in minutes between 2001 and 2002 for OST. The data is presented by district and month. (See Appendix I for complete breakdown.)

Table II

OST Variance in Minutes Between 2001. 2002

		January	February	March	April	May
District 1	*SIT*	-5.46	-9.8	-8.0	-5.48	-4.98
	Non SIT	-0.71	0.94	2.04	-5.42	-2.86
	All Call Types	-3.13	-5.17	-3.08	-5.15	-3.99
	All - Citywide	0.43	-1.01	-1.63	-2.29	-3.84
District 2 *SIT*		-1.18	-3.2	-2.88	-7.59	-4.66
	Non SIT	-1.83	-10.36	-0.19	-3.31	-3.95
	All Call Types	1.2	-7.02	-1.28	-5.56	-3.44
	All - Citywide	0.43	-1.01	-1.63	-2.29	-3.84
District 7 *SIT*		-0.05	-1. 94	No data	-4.5	-5.02
	Non SIT	2.87	0.38	No data	-1.56	-6.41
	All Call Types	1.46	-0.65	No data	-2.75	-5.44
	All - Citywide	0.43	-1.01	No data	-2.29	-3.84
District 8 *SIT*		-5.65	-6.66	-8.65	-6.04	-5.77
	Non SIT	-2.61	3.85	-2.01	1.03	-8.67
	All Call Types	-3.84	-0.99	-4.91	-2.5	-6.33
	All - Citywide	0.43	-1.01	-1.63	-2.29	-3.84
District 9	SIT	-5.72	-9.0	-9.23	-5.56	-7.69
	Non SIT	-0.36	-0.68	-8.16	-6.68	-10.76
	All Call Types	-2.98	-5.73	-8.64	-5.84	-9.15
	All- Citywide	0.43	-1.01	-1.63	-2.29	-3.84

The results indicate that OST decreased for all districts and all months of the pilot program for the SIT call types from 2001 to 2002. When "all call types" is compared to "all call types Citywide," the OST in all the pilot program districts shows a decrease. These results are consistent with the hypothesis that OST would be impacted and decrease during the pilot program.

The queue delays for calls for service are reviewed individually by district and priority for January - May of2oo1 and January - May of2002. (See Appendix n.) The queue delay is how long a call for service is held in the dispatch queue until it is dispatched. Departmental goals are established for each priority. A Priority One call for service has a goal of being dispatched in less than one minute; a Priority Two in less than five minutes; a Priority Three in

less than eighteen minutes; and a Priority Four in less than 23 minutes. Calls for service that are coded as Priority One and Priority Two are high priority, emergency type calls. Under Houston Police departmental policy, patrol units can be pre-empted from lower priority calls to be assigned to Priority One and Two calls for service. Priority Three and Four calls for service are non-emergency calls that can be held in the dispatch queue for a longer period of time before being dispatched. No conclusive determination of effect could be made from the queue delay statistics. In April and May the queue delays for Priority Four calls for service exceeded the departmental goals in both years, along with the queue delays for Priority Four calls for service being higher during the pilot program in the majority of the districts. These results are inconsistent with the hypothesis that queue delay times will decrease due to more units being available and calls not having to be held till a unit becomes available.

The analysis of the number of calls exceeding the STT was done individually by station (Central and Northeast). Due to incomplete data, the first two weeks of the pilot program were not analyzed for either station. Table ill indicates the number of calls exceeding the established time thresholds for each station for weeks three through sixteen of the pilot program. See Appendix ill for a complete breakdown by shift.

The results show that from week 3 - 16 at Northeast the average number of calls exceeding the STT on a weekly basis decreased at Northeast. Due to incomplete data from Central, no overall determination could be made. However, weeks 3 - 4 and 11 - 16 at Central did have complete ~ and a comparison showed that there were less calls exceeding the STT during the last six weeks of the pilot program than at the beginning.

Table III

Calls For Service Exceeding STT

Northeast			Central		
Week	Totals	Change	Week	Totals	Change
3	85	N/A	3	138	N/A
4	82	-03.50%	4	106	-23.200/0
5	65	-20.70%	5	-	
6	56	-13.80%	6	70	
7	103	+83.90%	7		
8	69	33.00%	8		
9	59	-14.50%	9		
10	55	-06.80%	10	53	
11	53	-03.60%	11	9S	+86.27%
12	46	-13.21%	12	S5	-42.11%
13	63	+36.96%	13	78	+41.82%
14	37	-41.27%	14	56	-28.21%
15	48	-29.73%	15	71	+26.79%
16	55	-14.58%	16	72	+01.41%

Surveys seeking both quantitative and qualitative data were administered to both officers and sergeants at the mid-point and end-point of the pilot program. See Appendices IV and V to view the actual surveys.

The quantitative questions were presented exactly the same on the mid-point and end point surveys. The quantitative analysis determined that the responses reflected negatively on the perceived quality of service and effectiveness of the program. See Appendix VI for a complete breakdown of the results of the quantitative analysis.

Table IV shows the percentage of Disagreed and Strongly Disagreed responses on the part of supervisors for each question. The most interesting result was for the question regarding productivity increasing for officers with below productivity standards in regards to calls for service. It had the largest change in the response from the midpoint to the endpoint. At the midpoint, 26.9% of the supervisors disagreed or strongly disagreed that productivity had

increased. At the endpoint, 60.5% of the supervisors disagreed or strongly disagreed that productivity had increased. This is perhaps a reflection of both the officers' and supervisors' negative perception of the program.

Table IV

Supervisor Midpoint/Endpoint Quantitative Survey Results - Percentage of Disagree/Strongly Disagree

Question	*Mid point*	*End point*
1) You are able to conduct a more thorough scene investigation.	90.4%	84.2%
2) The quality of your offense reports has improved.	94.2%	71.1%
3) Productivity has increased for officers with below productivity standards in regards to calls for service.	57.7%	42.1%
4) Public perception of the police due to time allotments placed on officer/citizen contact has not been affected.	53.8%	44.7%
5) The availability of supervisors in the field for assistance has increased.	51.90/0	42.1%
6) Supervisors do not view you any differently in regards to STT violations and having to respond to your scene.	26.9%	60.5%
7) Fewer calls are being held in queue and/or turned over to the next shift.	59.6%	60.5%
8) Supervisor scene response has reduced officer service time (from arrival to clear time).	59.6%	47.4%
9) Your fellow officers' personal views of the department have improved.	86.5%	68.4%
10) Your personal view of the department has improved.	88.5%	60.5%

Table V shows the percentage of Disagreed and Strongly Disagreed responses on the part of officers for each question. The most interesting result was for the question regarding supervisor scene response reducing officer service time. It had the largest change in the response from the midpoint to the endpoint. At the midpoint, 35.0% of the officers disagreed or strongly disagreed that supervisor scene response had reduced officer service time. At the endpoint,

72.1 % of the officers disagreed or strongly disagreed that officer service time had reduced due to supervisor scene response. This is perhaps a reflection of the officers' negative perception of the program.

Table V

Officer Midpoint/Endpoint Quantitative Survey Results - Percentage of Disagree/Strongly Disagree

Question	*Mid point*	*End point*
1) Quality of officers' reports has improved.	53.2%	88.9%
2) There is more time to complete your other duties as a supervisor.	81. 7%	82.1%
3) Officers are more available to be dispatched to calls for service.	59.2%	51.1%
4) Fewer calls and reports have to be authorized to be held for the next shift.	60.8%	61.2%
5) Desk personnel are better able to meet the demands of citizen walk-in complaints. (Desk sgt only.)	44.7%	46.1%
6) Productivity has increased for officers with below productivity standards in regards to calls for service.	35.0%	34.6%
7) Supervisor scene response has reduced officer service time (from arrival to clear time).	35.0%	72.1%
8) Officers directly assigned to you can be more effectively evaluated because of closer observations.	61.4%	64.6%
9) Your personal view of your performance as a supervisor has improved	82.3%	86.1%
10) Your personal view of the department has improved.	70.1%	74.6%

At the endpoint of the pilot program, qualitative questions were presented to the officers and the sergeants on the survey. The responses to the narrative questions for both the officers and the sergeants are summarized in Appendix VII. In reviewing the summaries, the following are highlights that are notable:

Antagonism towards the program from both the sergeants and officers shines through.

Both sergeants and officers felt that sergeants needed to do their job and be supervisors; that is, manage and monitor their officers and focus on the slackers/problem officers.
Both sergeants and officers felt that more officers needed to be put back into the call for service loop; staffing issues.

In addition, notable highlights of the officers' comments are the following:

There should be a concern with how "non patrol" and management is using duty time, as well; all should be held accountable, even investigative personnel. .
Reward workers, punish slackers.
Assess what calls officers really need to be dispatched to, or that could be handled in another way.

In addition, notable highlights of the sergeants' comments are the following:

Monitor STT through Dispatch and eliminate the middleman. The dispatcher advises the sergeant.
Sergeants need to be present enough on scenes so that the officers do not think it is uncommon, unusual, or uncomfortable for them to be there.

Conclusion

The central purpose of this work is to examine the "Service Time Threshold" (STT) Pilot Program that was conducted in the Houston Police Department. The STT Pilot Program is designed to reduce the amount of time that a patrol unit takes to process a call for service, namely the time from arrival to actually clearing the call, or officer service time (OST). Specifically, it is hypothesized that the OST time averages will be impacted during the pilot program and decrease. It is also hypothesized that queue delay times will decrease due to more units being available and calls not having to be held till a unit becomes available. It is further hypothesized that the percentage of calls exceeding the STT will decrease from the beginning to the end of the program.

Police departments are under pressure to maintain or improve their quality of service, reduce response time to urgent calls, and develop new strategies to solve these problems of crime and disorder; yet not hire more officers to handle increasing workloads. To illustrate this, one of

the values in the Houston Police Department's *Plan of Action* is the management of resources as effectively and efficiently as possible. This study has relevance to the law enforcement field because previous studies have focused on differential response and response time, not service time, in management of calls for service. Management of OST may be another tool to add to a police department's repertoire to assist in resource allocation and time management.

The results indicate that OST decreased for all districts and all months of the pilot program for the SIT call types from 2001 to 2002. When "all call types" is compared to "all call types - Citywide," the OST in all the pilot program districts shows a decrease. These results are consistent with the hypothesis that OST would be impacted and decrease during the pilot program.

No conclusive determination of effect could be made from the queue delay statistics. In April and May the queue delays for Priority Four calls for service exceeded the departmental goals in both years, along with the queue delays for Priority Four calls for service being higher during the pilot program in the majority of the districts. These results are inconsistent with the hypothesis that queue delay times will decrease due to more units being available and calls not having to be held till a unit becomes available. There are other variables that are unaccounted for that could affect the queue delay, such as the number of officers that are available (how many that are working that day) and the number of calls that the department receives.

The analysis of the number of calls exceeding the SIT was done individually by station (Central and Northeast). The results show that from week 3 - 16 at Northeast the average number of calls exceeding the SIT on a weekly basis decreased at Northeast. Due to incomplete data from Central, no overall determination could be made. However, weeks 3 - 4 and 11 - 16 at Central did have complete data, and a comparison showed that there were less calls exceeding

the STT during the last six weeks of the pilot program than at the beginning. These results are consistent with the hypothesis that the percentage of calls exceeding the STT will decrease from the beginning to the end of the program

Surveys seeking quantitative and qualitative data were administered to both officers and sergeants at the mid-point and end-point of the pilot program. The quantitative and qualitative analysis determined that the responses reflected negatively on the perceived quality of service, effectiveness of the program, and the officers and sergeants attitudes towards the program.

The sergeants and officers had no input into the development of the pilot program so their negative attitudes are in concurrence with the theories of motivation and work. As mentioned previously (Cordner, 1978), surveys reflect a higher order need of police officers to be able to participate in decisions that affect them. These findings also reflect higher order needs for responsibility and recognition, which are not being satisfied under the existing conditions of the pilot program. So, the implications are that, if the pilot program would be put into effect, the sergeants and officers would need to be provided opportunities for input into the implementation of the program.

It was concluded that officer service time was reduced due to the use of SIT. However, it could not be determined that unit availability actually increased. Furthermore, the officers and sergeants negative perception of the program has implications for the need for changes in the administration of the program.

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